

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SILVER LAKE	Lake Area (ha):	134.64
Town: HARRISVILLE	Maximum depth (m):	26.2
County: Cheshire	Mean depth (m):	10.4
River Basin: Connecticut	Volume (m ³):	13878500
Latitude: 42°57'37" N	Relative depth:	2.0
Longitude: 72°08'33" W	Shore configuration:	1.81
Elevation (ft): 1319	Areal water load (m/yr):	2.30
Shore length (m): 7400	Flushing rate (yr ⁻¹):	0.20
Watershed area (ha): 569.8	P retention coeff.:	0.79
% watershed ponded: 0.0	Lake type:	natural w/dam

<u>BIOLOGICAL:</u>		14 January 1999	4 August 1998
DOM. PHYTOPLANKTON (% TOTAL)	#1	TABELLARIA 65%	CHRYSOSPHAERELLA 35%
	#2	ASTERIONELLA 30%	DINOBRYON 30%
	#3	DINOBRYON 4%	TABELLARIA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			1.11
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	NO ZOOPLANKTON COUNTS
	#2		AVAILABLE
	#3		
ROTIFERS/LITER		9	
MICROCRUSTACEA/LITER		<1	
ZOOPLANKTON ABUNDANCE (#/L)		9	
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			7.5
BOTTOM DISSOLVED OXYGEN (mg/L)		11.6	7.3
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.6
Hypolimnion volume (m³) : 3366500
Anoxic volume (m³) : None

CHEMICAL:

Lake: SILVER LAKE

Town: HARRISVILLE

	14 January 1999		4 August 1998		
DEPTH (m)	7.0	14.0	2.0	9.0	17.0
pH (units)	6.0	5.9	6.1	6.4	5.8
A.N.C. (Alkalinity)	1.5	1.5	1.2	1.2	1.5
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.10	0.20	0.20	0.20
TOTAL PHOSPHORUS	0.007	0.006	<0.001	0.005	0.025
CONDUCTIVITY (μ mhos/cm)	25.6	25.4	24.1	23.8	25.2
APPARENT COLOR (cpu)	< 5	< 5	< 5	< 5	5
MAGNESIUM			0.54		
CALCIUM			1.1		
SODIUM			1.7		
POTASSIUM			0.61		
CHLORIDE	2	2	2		2
SULFATE	4	4	4		4
TN : TP	43	17			8
CALCITE SATURATION INDEX			5.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

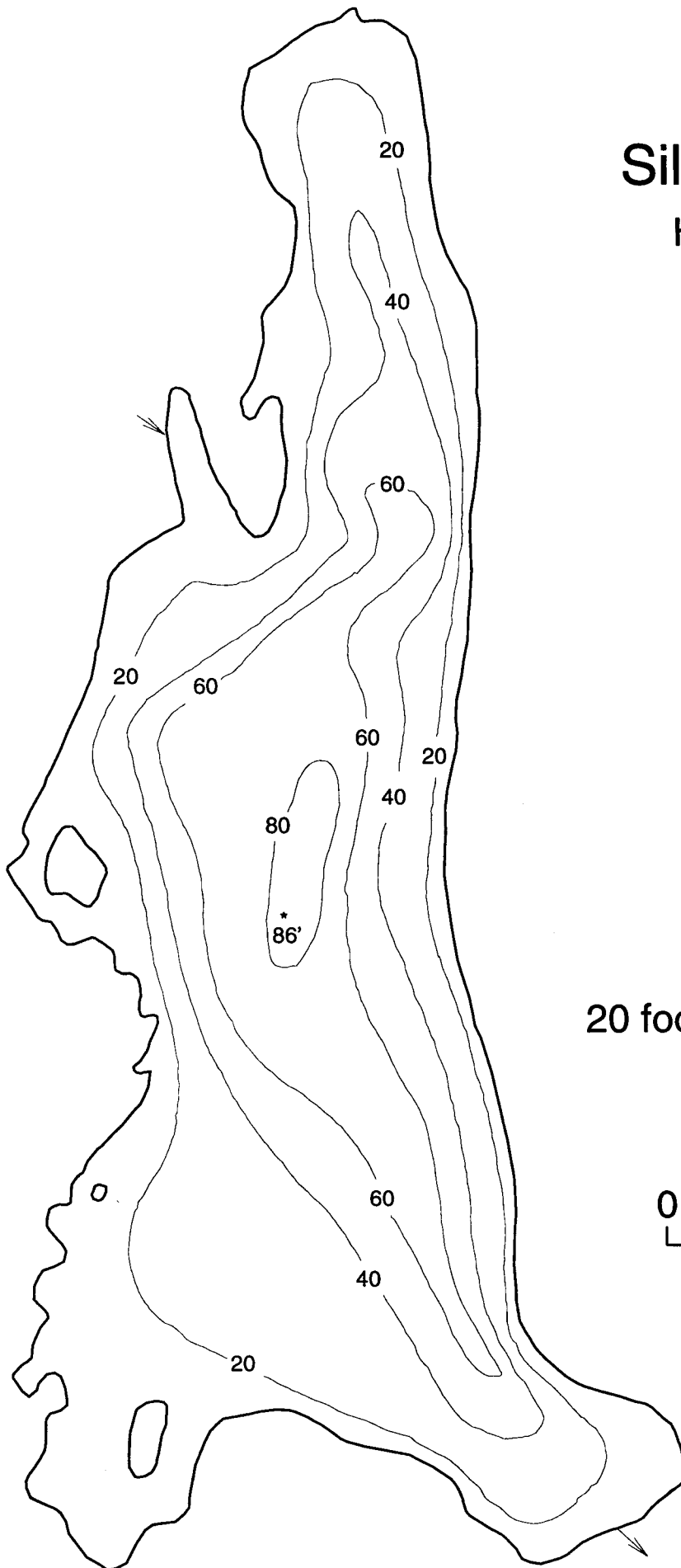
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	0	0	0	0	Oligo.

COMMENTS:

1. Silver Lake was previously surveyed and classified in 1978 and 1990, and was rated oligotrophic with very low productivity in all three years. In 1998, for the first time, a slightly elevated phosphorus value was observed in the bottom waters.
2. This lake has participated in VLAP (volunteer monitoring program) since 1991 and has shown stable and excellent water quality throughout this time period.
3. The outlet of this lake has been monitored at spring and fall overturn since 1983 as part of the DES acid rain monitoring program. Acidity (pH) has been somewhat acidic but stable over this time period, while ANC showed a slightly improving trend early but a relatively stable trend – and still very low – over the last 10 years.
4. Good boat launch present near the outlet of the lake.
5. An in-depth diagnostic study was completed on the lake in 1998-99. It also found excellent oligotrophic water in the lake.

Silver Lake

Harrisville



20 foot depth contours

0 0.5
Km

FIELD DATA SHEET

LAKE: SILVER LAKE
DATE: 08/04/1998

TOWN: HARRISVILLE
WEATHER: CLOUDY TO PARTLY CLOUDY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	24.0	8.3	98 %
	1.0	23.9	8.3	96 %
	2.0	23.7	8.4	97 %
	3.0	23.4	8.3	97 %
	4.0	23.3	8.4	97 %
	5.0	23.2	8.3	96 %
	6.0	23.0	8.2	96 %
	7.0	21.6	9.0	101 %
	8.0	17.9	11.3	116 %
	9.0	15.1	12.2	123 %
	10.0	12.8	12.8	117 %
	11.0	11.1	13.1	118 %
	12.0	9.9	12.6	107 %
	13.0	8.5	10.5	87 %
	14.0	8.4	9.8	82 %
	15.0	8.2	9.1	77 %
	16.0	8.0	8.5	71 %
	17.0	7.9	8.3	68 %
	18.0	7.8	7.9	63 %
	19.0	7.7	7.4	60 %
	20.0	7.7	7.3	59 %
	21.0	7.7	7.3	59 %

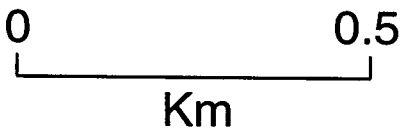
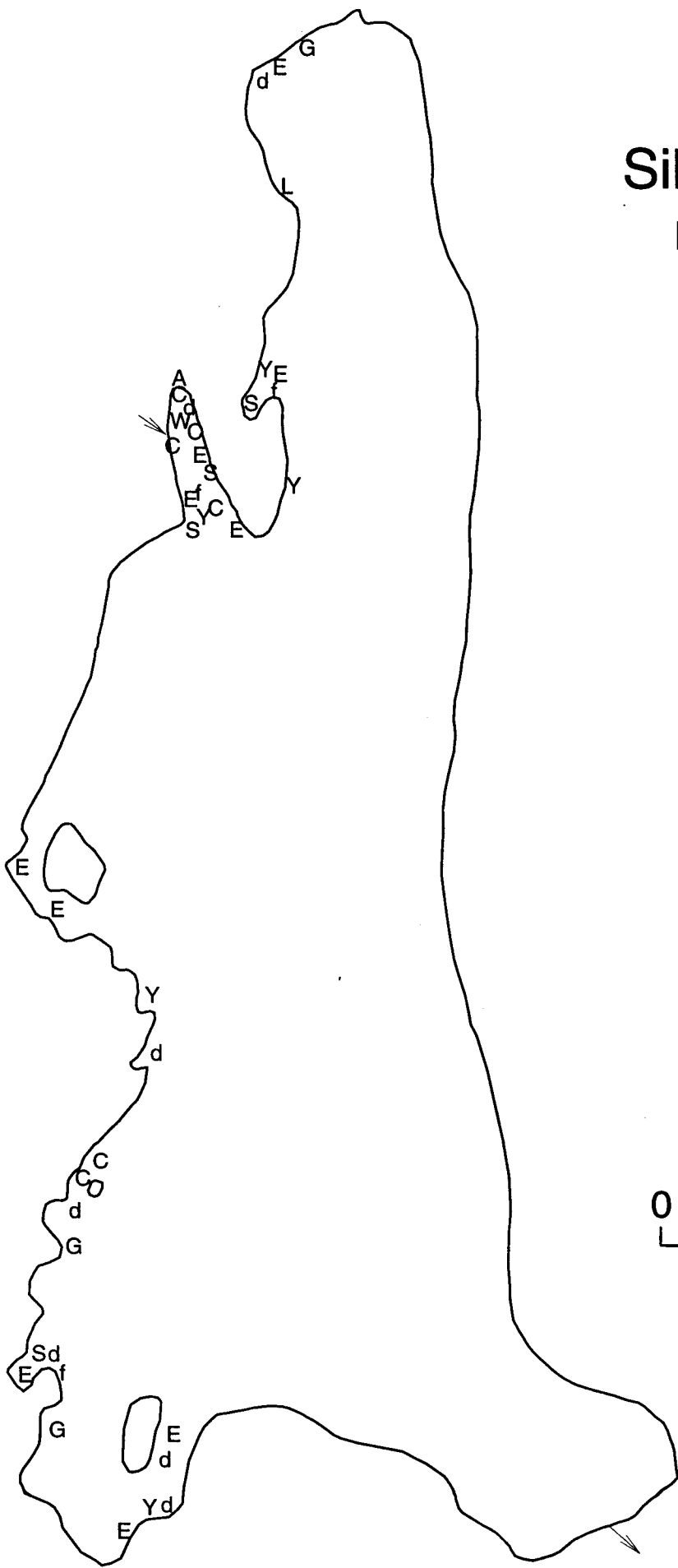
SECCHI DISK (m): 7.5
BOTTOM DEPTH (m): 22.0
TIME: 1210

COMMENTS:

*Dissolved oxygen values are in mg/L

Silver Lake

Harrisville



[illegible]